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Ebening Meeting

Monday, April 8th, 1872.

REAR-ADMIRAL A. P. RYDER, in the Chair.

NAMES OF MEMBERS who joined the Institution between the 19th March and the 8th April, 1872.

LIFE.

Northbrook, Right Hon. Lord, Viceroy and Governor General of India.

Dennistoun, R. J. W., Lieut. 64th Regt.

Graham, Cyril, Esq., late Governor Red River Settlement.

ANNUAL.

Reamsbottom, Alfred, Lieut. 82nd Regt.

Loder, F. C. J., Lieut. 82nd Regt.

Boycott, William, Major 29th Regt.

Deering, Charles L. H., Lieut. 28th Regt.

Smith, S. Milne, Major late 3rd W. York Rifle Volunteers.

Law, E. F. G., Lieut. R.A.

Gawler, John Cox, Colonel 73rd Regt.

Chichester, Sir Alexander P. B., Bart., Lieut. Devon Yeo.

Stephenson, Charles, Captain 22nd Middx. Rifle Vols.

Trench, Hon. C. G., Captain 1st Royal Dragoons.

Gordon, Alexander W., Lt.-Col. 61st Regt.

Hickson, Robert A., Lieut. 3rd Buffs.

Murchison, K. R. Esq., formerly of the 13th L. I. and 58th Regt.

Hammick, St. V. A., Capt. 43rd L. I.

Quick, George, Esq., Engineer R.N.

Cooper, William, Lt.-Col. 70th Regt.

Davidson, John, Esq., Master Royal School of Naval Architects.

Stock, H. J., Capt. Bombay Staff Corps.

A METHOD OF CONVERTING THE REGULATION BELL TENT INTO A SHELTER TENT: WITH A NEW ARRANGEMENT FOR ENTRENCHING TOOLS.

By W. JAMES, Esq., late 42nd Highlanders.

THE proposal which I am about to bring before you, and which has to do with the question of shelter-tents and entrenching tools, is made from motives of economy. My shelter-tent is composed of six pieces of canvas, and I propose to show how it can be cut out of the bell-tent. It is hardly necessary for me to say much upon the question of the shelter-tent. It is a subject which does not seem to have occupied the attention of Government with regard to the British Army of late years; there has been a prejudice against it; but on examining the bell-tent, I think that you will find my proposal worthy of consideration.

The bell-tent is a very ancient institution of the British Army, and

no doubt it has been modified a little from time to time. It is my opinion that the time is come when it may be further modified, and I think that my plan will contribute to that result. The bell-tent costs about £3 10s.; and if it cost that sum and nothing more, we might be content with it. But that is not all; the carriage of it increases its cost seven or eight times. These are economical times; but I trust that they are efficient times also. If you can combine efficiency with economy, then, I think, the question is settled. Now, I undertake to combine efficiency with economy.

I think I have shown that the bell-tent is not economical. Now let us see whether it is efficient. I admit that it is a very good tent, if you can have it when you want it; but it cannot always be at hand when it is required. In the case of a regiment marching along a good road, or where you can get your pack-animals to keep up with the regiment, you can get your bell-tents up; but even then there is a considerable amount of delay in the matter. But supposing you are going over ground impassable to animals or carriages, what are you to do then? You have to bivouac. Now bivouacking in fine weather is not at all an unhealthy thing. But still you have no shelter should it be required. Therefore you see the bell-tent is not sufficient, because it cannot always be had

when it is wanted; and, as I have said before, it is not economical. I now undertake to do away with the bell-tent as it stood, and to substitute another from its materials. I proceed to cut the two ends; to cut off its head; and I then take the four sides, and I make what the French call a *tent d'abri*. I know that there is a prejudice against shelter-tents, although they have never been used in the British Army, except on one occasion, when they were used by General Eyre's division in the Crimea, as an experiment. They are objected to in consequence of the weight, &c. But I think you will agree with me, that if I can undertake that this shelter-tent shall be every bit as comfortable as the bell-tent (taking into consideration the time the men must be without tents) that, as a matter of economy and efficiency, it will be a very good substitute. With regard to the question of cost; my proposed "shelter-tent," taken out of the "bell-tent," will only cost a trifle, because you have the canvas already; you have merely to cut it in the way I have shown, to fit buttons and button-holes, and cut two slits. I calculate the cost to be about 12s. for the whole tent. The carriage of it costs nothing, because the men carry it themselves. Every man carries a piece; and as regards the comfort of it, you will agree with me that a tent of some sort is better than no tent at all, because, as in the case of the bell-tent, the men are often obliged to do without it at all.

I now come to the question of "entrenching tools," an answer to which is the great want of our times. This also is really a question of shelter. Now there are two kinds of shelter; shelter from the weather, and shelter from the missiles of the enemy. I provide entrenching tools for this second form of shelter. Having got the poles for the shelter tent, I fit them with tools for entrenching. These tools consist of a spade and a pickaxe. Possibly, gentlemen connected with the

Army, who know what the present entrenching tools are, will say that my plan is impossible. I think the contrary. My object is, that not only the tent should be carried by the men, but the tools also; because if the tools are carried in carts, the men may have to wait for them when they most need them to throw up cover, and may suffer seriously in consequence. Here I show a spade, a shovel, and a pick. This is the regulation shovel, this is the regulation pick, only reduced to a weight and size so that they can be carried by the men. I use the tent-poles as handles for the tools. The question of fixing them may appear a difficulty, but there is no real difficulty in the matter. The upper pole of the tent I fix into the shovel with a bolt, and it is quite strong enough for the purpose. The pick is put over the end of the

other pole, which is rather thicker at one end, in the usual way of picks, and it can be taken off when required.

Now, with regard to the weight which the soldier will have to carry, I find on looking into that admirable book by Sir Garnet Wolsey, "*The Soldier's Pocket Book*," that the weight for the British soldier to carry has been reduced to 40 lbs. 9 oz.; this does not include the blanket, which has to be carried for the men. My plan is to do away with carriages altogether; not to have a single cart or horse; but I cannot do without the men's blankets, the men must have their blankets. I therefore do away with the great coat, and I convert these half-canvas tents into great coats for the men. Now, each piece of

canvas weighs 4 lbs. as compared with the coat which weighs 5 lbs. 14½ oz. I acknowledge that the warmth of the canvas is not equal to that of the great coat; but, as I allow a blanket, I think the two together will pretty well balance the warmth of the great coat. I thus take away 5 lbs. 14½ oz. from the weight of the kit, and I put in exchange 4 lbs.; therefore, I make the kit lighter by 1 lb. 14½ ozs. The men, however, have to carry the tent poles and the entrenching tools. The tent pole is about 1 lb.; the entrenching tools should not be more than 3 lbs. at the outside; I hope to get them less. This addition will make the kit about 3 lbs. more than the present weight. Then, again, the kit includes 70 rounds of ammunition; but if you provide the men with entrenching tools, with the means of throwing up shelter against the fire of the enemy, so much ammunition will not be required, and you may reduce the ammunition by 20 rounds, which weighs 2 lbs. In that way I get my kit down to the amount that the soldier at present carries, about 40 lbs. 9 ozs., but with the blanket in addition, which, on a short expedition, can be balanced by leaving out the extra pair of boots at present carried by the soldier. In conclusion, I may state that the cost of the carriage of the bell tents and entrenching tools for a regiment 800 strong, is about £4 per day, making for a three weeks' manœuvring about £80. Now, the cost of converting 100 bell tents at 12s. each, and 302 entrenching tools (the number at present allowed to a regiment) at 1s. each, would be £76. Therefore my plan shows an immediate saving of £4, and in future the entire cost of carriage would be saved, besides conferring, in my estimation, an immense benefit on the soldier.

Present field list.	Weight.	Proposed by Lieutenant James.	Weight.	No. of men.	Number of men to shelter tent, articles, and weight carried by each.	Weight.
	lbs. oz.		lbs. oz.			lbs. oz.
Valise and straps ..	3 1	Valise and straps ..	3 1	1.	{ Portion of tent, 1 blanket, ammunition (50 rounds), accoutrements, water bottle, pickaxe and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin	{ 48 0½
Pouches	1 11	Pouches	1 11			
Waistbelt and frog.	0 14	Waistbelt and frog.	0 14			
Ammunition (50 rounds)	7 5	Ammunition (50 rounds)	5 3			
Rifle	9 0½	Rifle	9 0½	2.	{ Portion of tent, 1 blanket, ammunition (50 rounds), accoutrements, water bottle, shovel and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin	{ 48 0½
Bayonet	0 13½	Bayonet	0 13½			
Scabbard	0 4½	Scabbard	0 4½			
Knife and lanyard ..	0 5	Knife and lanyard ..	0 5			
Water bottle	3 10	Water bottle	3 10	3.	{ Portion of tent, 1 blanket, ammunition (50 rounds), water bottle, accoutrements, pickaxe and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin	{ 48 0½
Mess tin	1 5½	Mess tin	1 5½			
Great coat	5 14½	Tool and handle ..	4 0			
1 shirt	1 1½	Share of tent	4 0			
1 pair of socks	0 4½	1 shirt	1 1½	4.	{ Portion of tent, 1 blanket, ammunition (50 rounds), accoutrements, water-bottle, shovel and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin	{ 48 0½
Towel	0 8	1 pair of socks	0 4½			
Spoon	0 1½	Towel	0 8			
Comb	0 0½	Spoon	0 1½			
Brush	0 3½	Comb	0 0½	5.	{ Portion of tent (ent), 1 blanket, ammunition (50 rounds), accoutrements, water-bottle, hatchet and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin, spare grease, 1 lb.	{ 48 0½
Pot of grease	0 4	Blanket	4 0			
Housewife	0 3	Glengarry cap	0 4			
Sponge	0 0½	Total	40 8½			
Boots	3 3	3 days' provisions..	7 8	6.	{ Portion of tent (ent), 1 blanket, ammunition (50 rounds), accoutrements, water-bottle, hatchet and handle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin, 2 brushes, 2 housewives, 2 sponges, 1 lb.	{ 48 0½
Glengarry cap	0 4	Grand total	48 0½			
Account book	0 2					
	40 9					
				7.	{ Waterproof sheet, 1 blanket, ammunition (50 rounds), accoutrements, water-bottle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin	{ 48 0½
				8.	{ Waterproof sheet, 1 blanket, ammunition (50 rounds), accoutrements, water-bottle, valise packed, three days' provisions, rifle, bayonet, scabbard, mess tin, camp kettle, 3¼ lbs.	{ 48 0½

The CHAIRMAN : Would any gentleman like to ask any questions or to make any remarks?

Captain COLOMB, R.N. : I wish to ask whether the lecturer intends to substitute his *tent d'abri* entirely for the bell tent?

Mr. JAMES : I should hope not entirely. There is no necessity to make it out of the bell tent ; only as we have the bell tent already, as a matter of economy I propose to utilise it in the way I have mentioned. You see it exactly fits into my plan, although not intended to do so originally.

A VISITOR : Is it intended that the soldier should carry his tools with his tent?

Mr. JAMES : There are entrenching tools at present provided, which are carried in a cart, and the carriage of those entrenching tools comes to about a guinea a day. My plan is for the soldier to carry his own entrenching tools, not only because it is more economical, but because it is more efficient. When they are carried in a waggon you do not know where they may be. Being obliged to carry two poles for the *tent d'abri*, I utilise them as handles for the entrenching tools. These tools have been tried, and a similar system (I will not say the very exact plan) to this has been tried ; but I have used a spade of this sort, and found it to answer. The weight is a little more than I should like it to be.

The CHAIRMAN : Is your *tent d'abri* about the size of the French tent?

Mr. JAMES : Yes, two of the square pieces without ends are. The French tent is open.

The CHAIRMAN : How many men will your tent hold?

Mr. JAMES : This, with the addition of two more centre pieces, accommodates eight men. The eight men who occupy this shelter tent require no carriage of any sort, neither horse nor cart. Though I cannot undertake that they should carry the tent and tools through a whole campaign, yet for the autumn manœuvres by this system there would be no expense of carriage at all.

A VISITOR : In the event of one of the men meeting with a casualty, what then?

Mr. JAMES : Unfortunately, in that case it is impossible for me to tell. But the two ends form a tent for two, and the two centre pieces form a tent for two without the ends, like the French tent exactly. My plan provides a tent for eight, five, or two men.

Commander GILMORE, R.N. : I would ask a question as a mechanic. The strength of a thing is not stronger than its weakest part. Supposing one man breaks down, the man who carries the centre part?

Mr. JAMES : Then, of course, the tent can be used as a tent for five, or for two, or for eight.

Captain GILMORE : Would the connecting parts be buttoned?

Mr. JAMES : Yes, buttoned together. Here is a tent for five, here is a tent for eight, and putting these two ends together, it is capable of holding two, being six feet in diameter.

Captain GILMORE : Would it not be equally well for the man who carries this tent to put his back against the wind, and spread his portable clothes over him?

Mr. JAMES : He can spread his tent over him if he likes. I do not want the man to get under the tent if he does not like ; but what I say is this, here is a tent for him if he likes to use it.

A VISITOR : Supposing a man has to go on sentry, what is he to do without a great coat?

Mr. JAMES : He can put on this portion of the tent, which acts as a great coat.

The VISITOR : Then the tent would be incomplete.

Mr. JAMES : Then five men can make use of the remaining parts, and fix a tent for five.

The CHAIRMAN : I beg to tender the thanks of the meeting to Mr. James for this explanation of his system.